FIG. 1

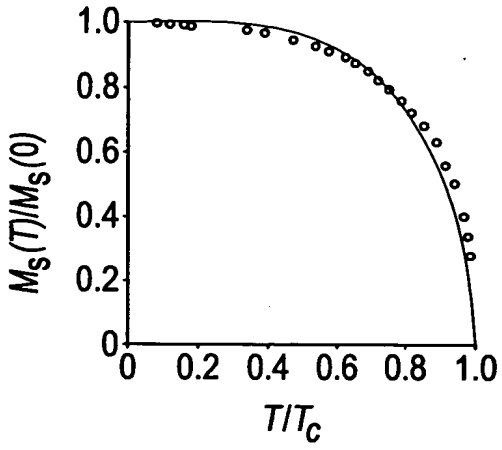


FIG. 2A

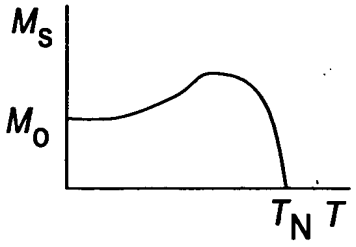


FIG. 2B

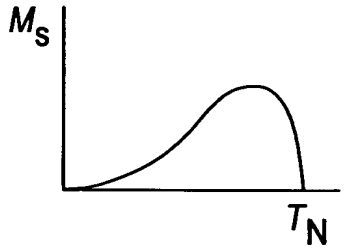


FIG. 2C

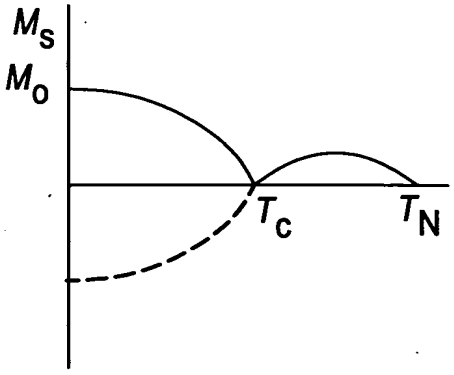


FIG. 2D

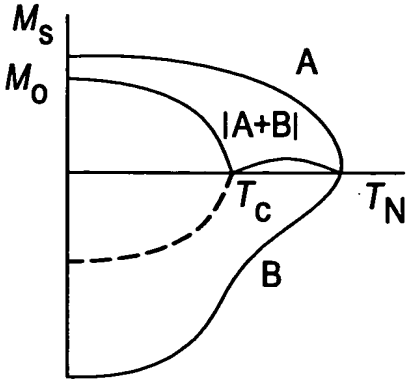


FIG. 3A

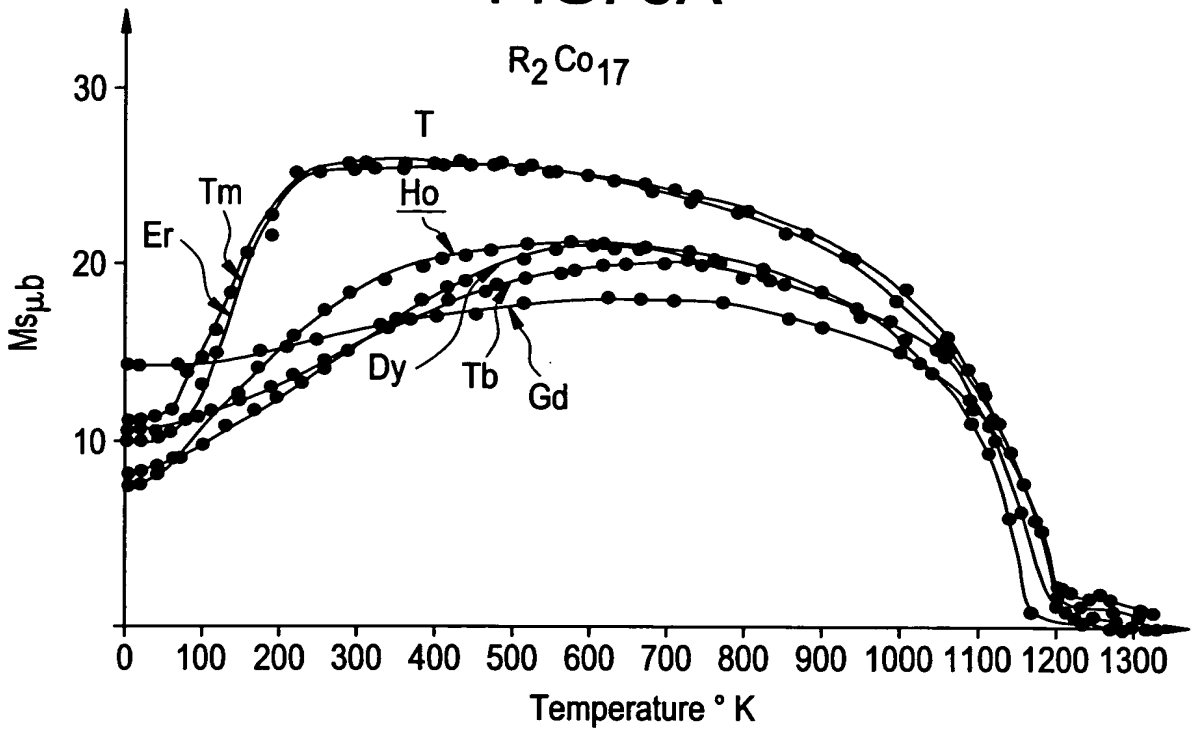

R_2Co_{17}
T
Tm
Ho
Er
Dy
Tb
Gd
30
20
10
$M_s\mu_b$
0 100 200 300 400 500 600 700 800 900 1000 1100 1200 1300
Temperature ° K

FIG. 3B

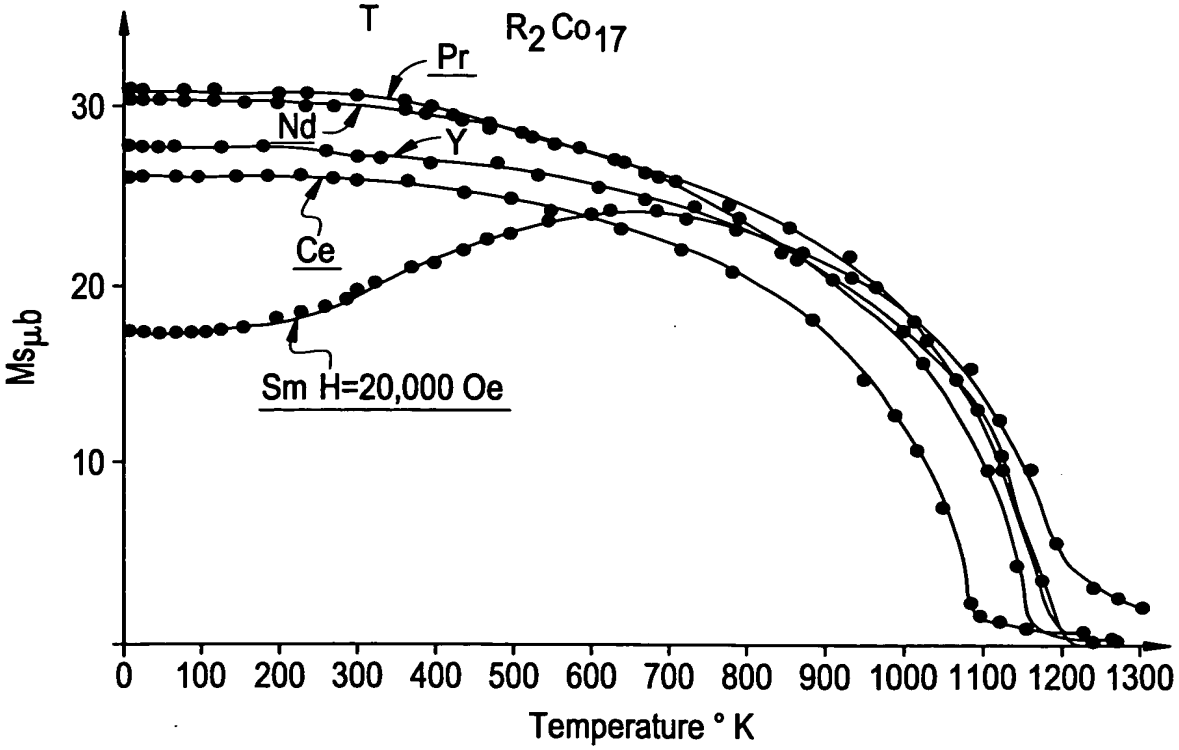

T
R_2Co_{17}
Pr
Nd
Y
Ce
Sm H=20,000 Oe
30
20
10
$M_s\mu_b$
0 100 200 300 400 500 600 700 800 900 1000 1100 1200 1300
Temperature ° K

FIG. 4

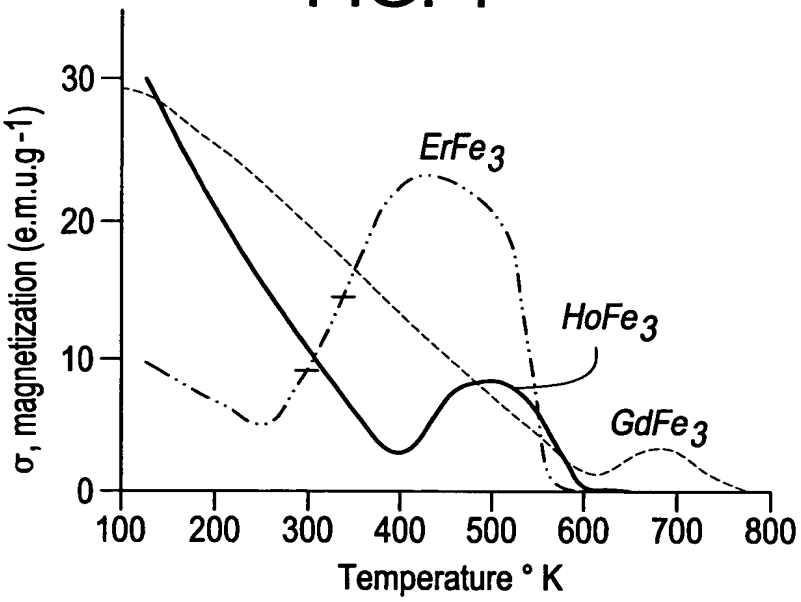

σ, magnetization (e.m.u.g-1)
30
20
10
0
100
200
300
400
500
600
700
800
Temperature ° K
ErFe3
HoFe3
GdFe3

FIG. 5

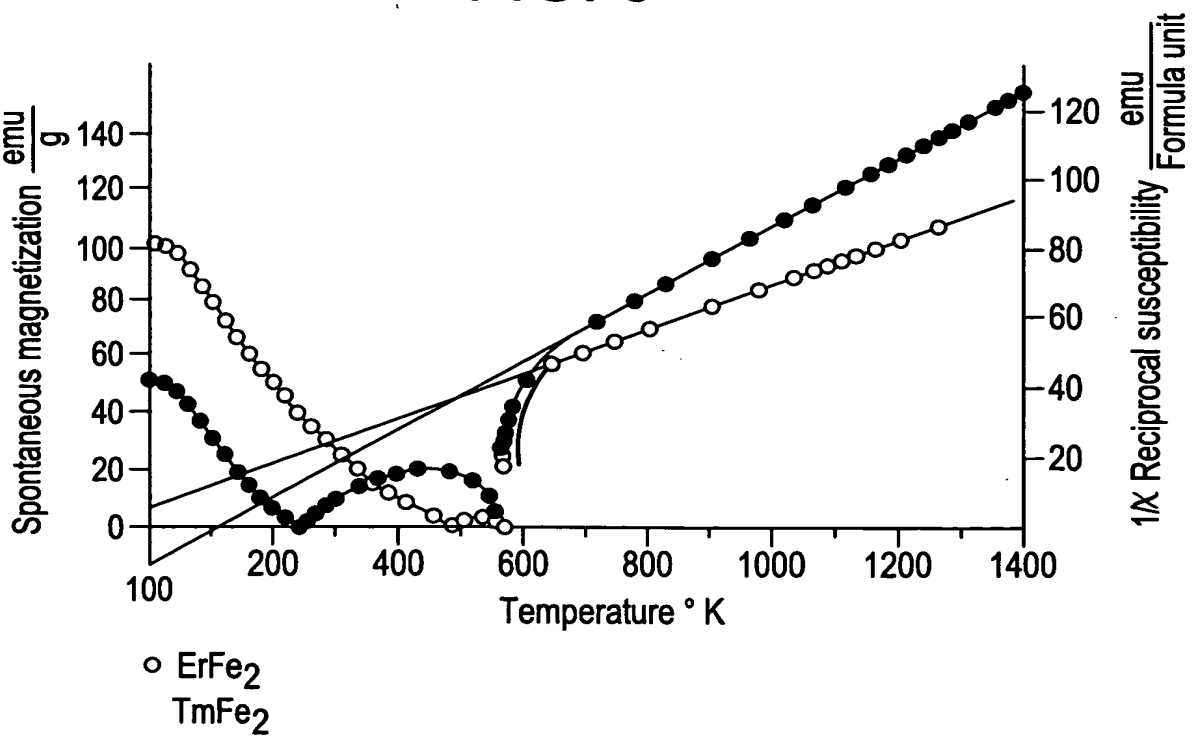

Spontaneous magnetization emu/g
140
120
100
80
60
40
20
0
100
200
400
600
800
1000
1200
1400
Temperature ° K
1/χ Reciprocal susceptibility emu/Formula unit
120
100
80
60
40
20
o ErFe2
TmFe2

FIG. 6

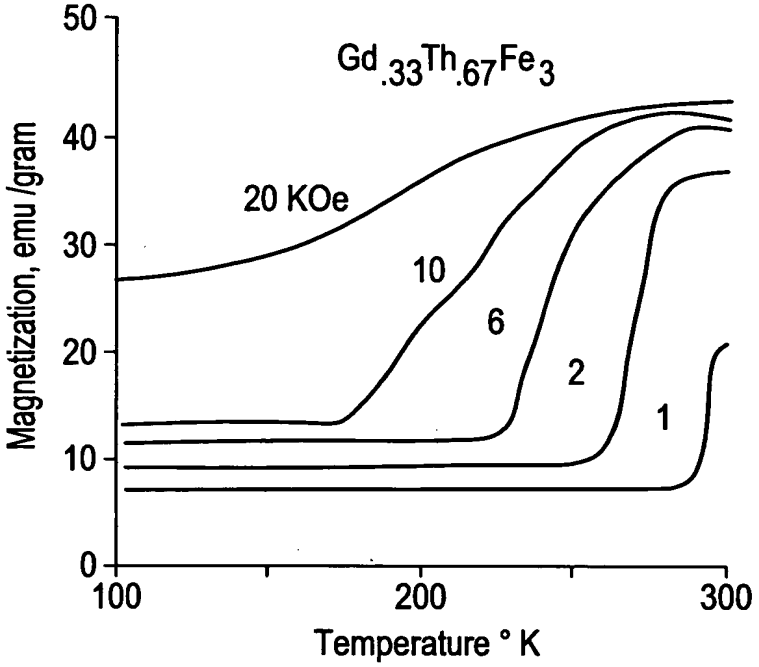
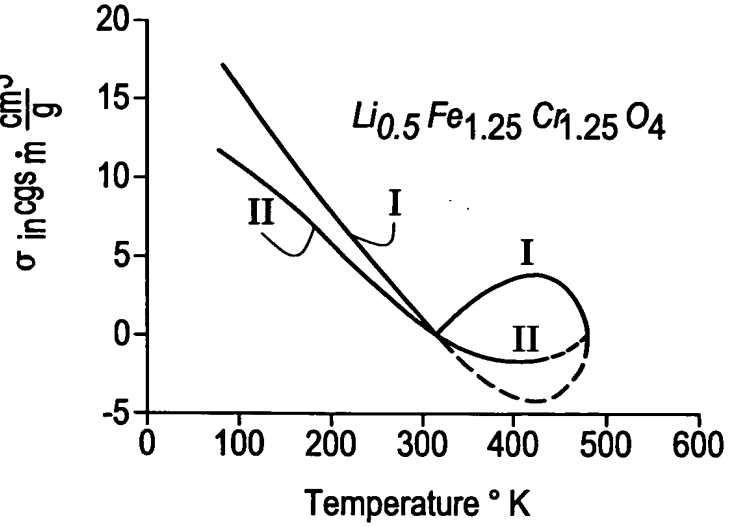


FIG. 7



I = Magnetization
II = Remanence

FIG. 8A

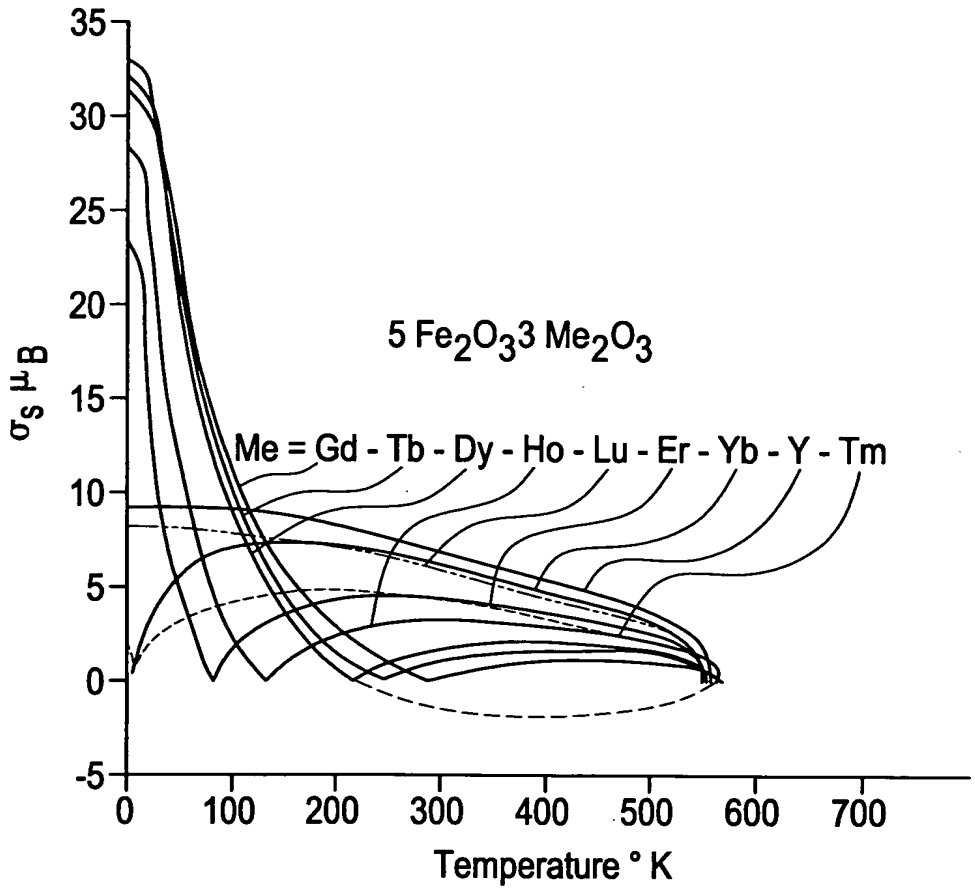

35
30
25
20
15
10
5
0
-5
$\sigma_S \mu_B$
$5\,Fe_2O_3 3\,Me_2O_3$
Me = Gd - Tb - Dy - Ho - Lu - Er - Yb - Y - Tm
0
100
200
300
400
500
600
700
Temperature ° K

FIG. 8B

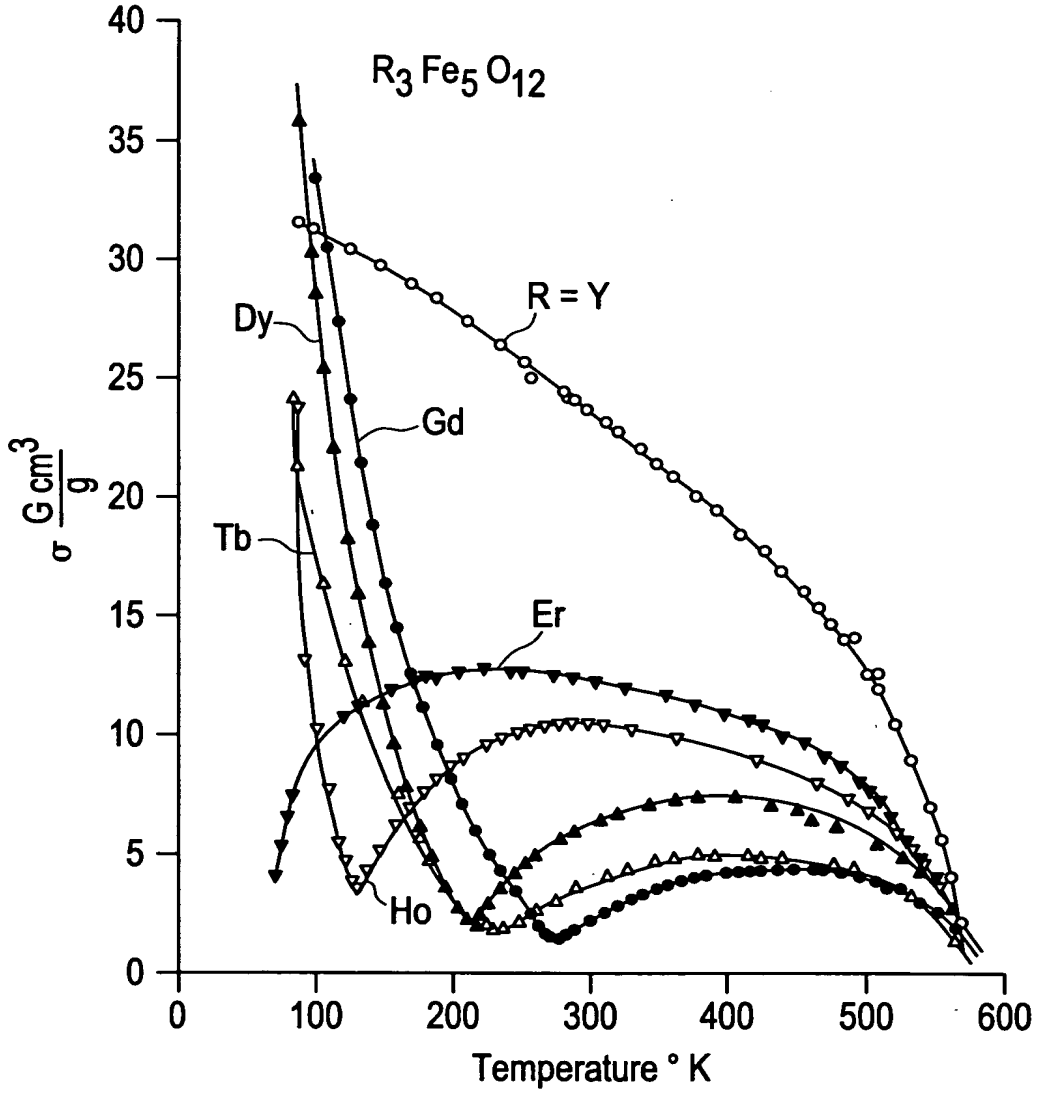

$R_3Fe_5O_{12}$
R = Y
Dy
Gd
Tb
Er
Ho
$\sigma \frac{G cm^3}{g}$
0
5
10
15
20
25
30
35
40
0
100
200
300
400
500
600
Temperature ° K

FIG. 9

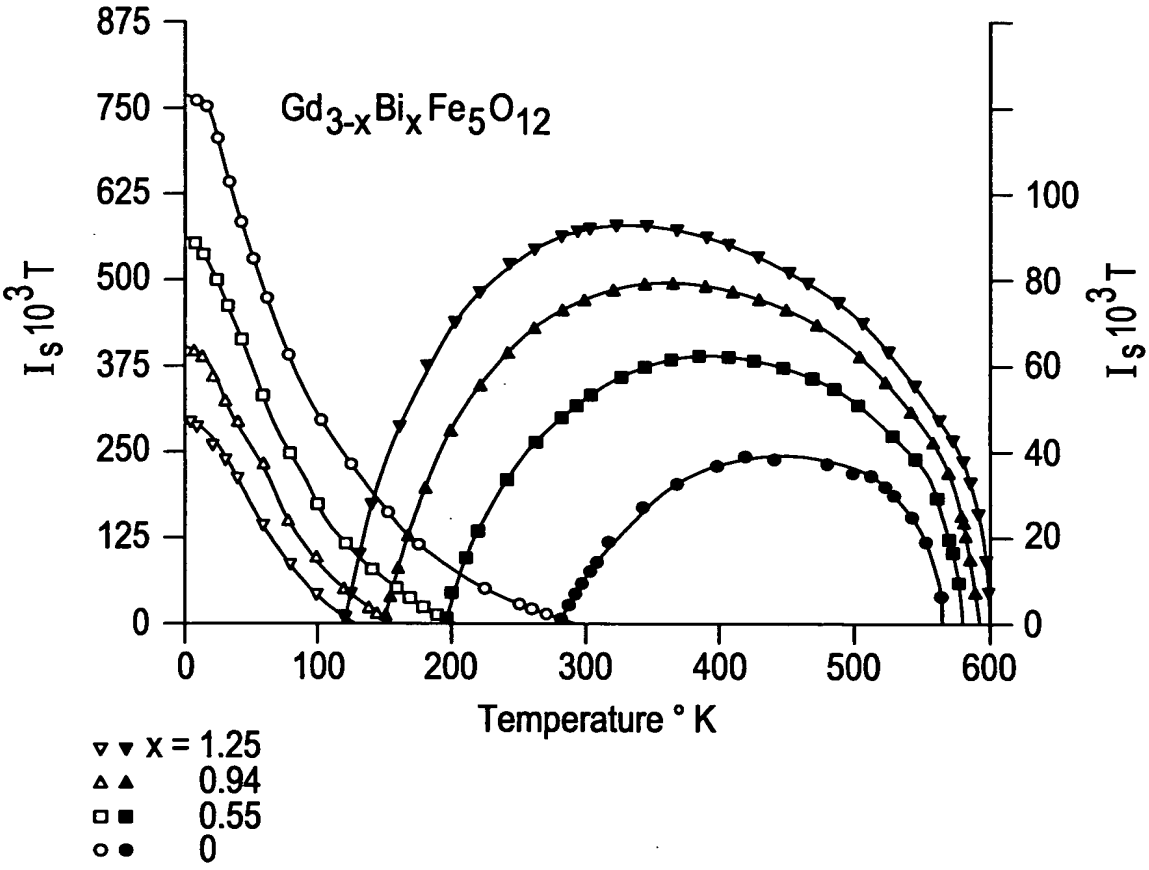

875
750
625
500
375
250
125
0
$I_s 10^3 T$
$Gd_{3-x}Bi_xFe_5O_{12}$
100
80
60
40
20
0
$I_s 10^3 T$
0
100
200
300
400
500
600
Temperature ° K
▽ ▼ x = 1.25
△ ▲ 0.94
□ ■ 0.55
○ ● 0

FIG. 10

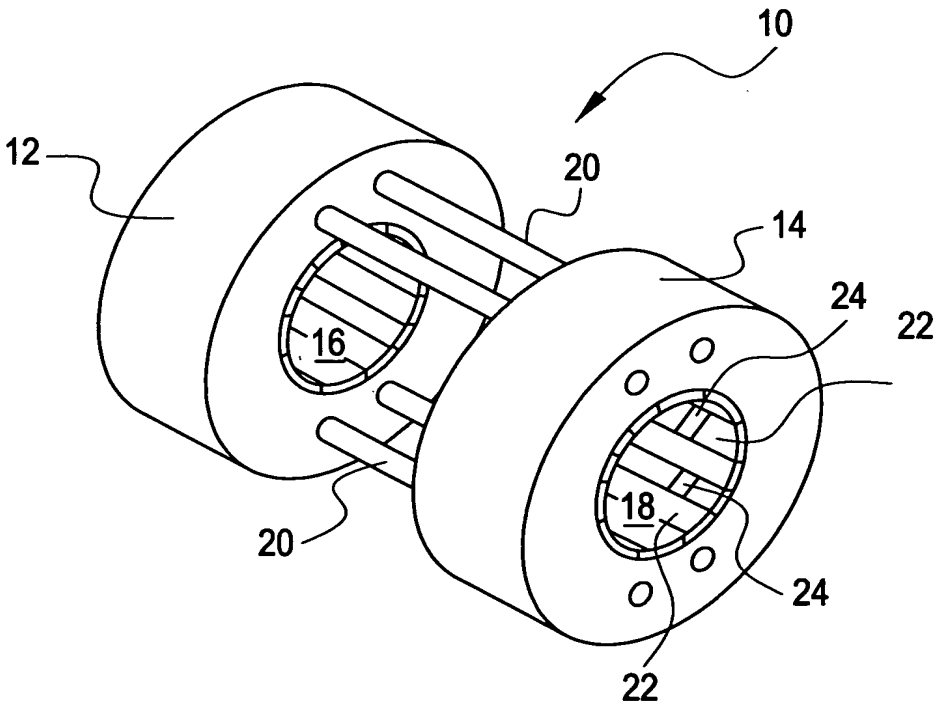


FIG. 11

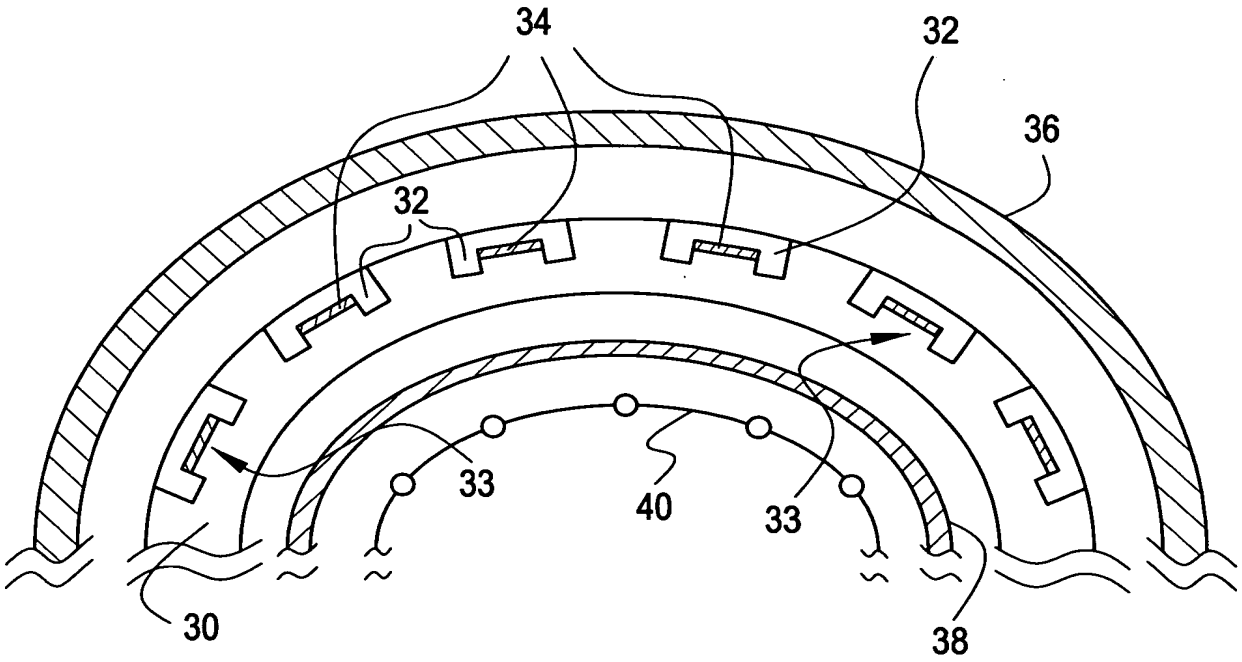
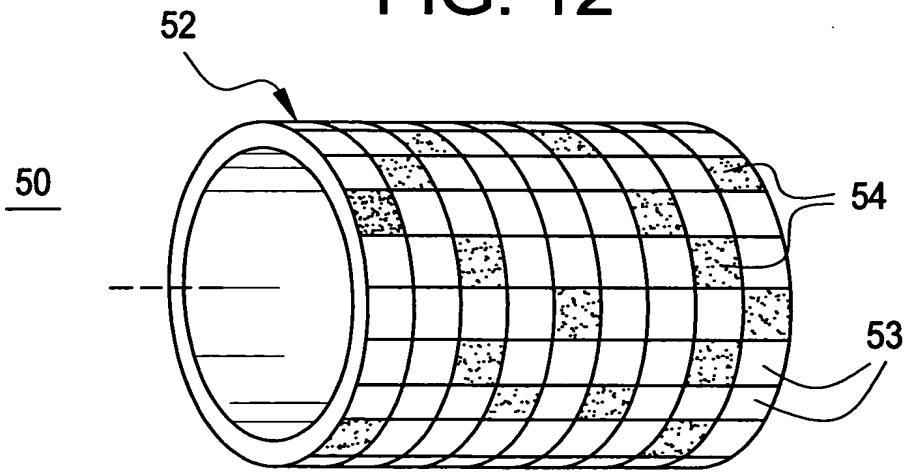



FIG. 12